

Tuesday, 3/20/2007 1:47:37 PM
Kim Johnston

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: 212/205 HIGH FED X-TUBE ASSEMBLY
Job Number	: 31354		
Estimate Number	: 10254		
P.O. Number	: <i>N/A</i>	Part Number	: D212664101
This Issue	: 3/20/2007 S.O. No. : <i>N/A</i>	Drawing Number	: D212-664-141 REV <i>B</i>
Prsht Rev.	: <i>NC</i>	Project Number	: <i>N/A</i>
First Issue	: <i>N/A</i> Type : LANDING GEAR	Drawing Revision	: <i>B</i>
Previous Run	: 31353	Material	: <i>N/A</i>
Written By	: <i>[Signature]</i>	Due Date	: 4/15/2007
Checked & Approved By	: <i>[Signature]</i> 07.03.20	Qty:	1 Um: Each
Comment	: Est Rev: E 04.02.16 Reformat KJ/DS Est Rev: F 06-03-29 Remove Coments on Pick List JLM		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	DC	DOCUMENT CONTROL
-----	----	------------------



Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D212-664-101CHG0003

KS 07.05.04

2.0	D6005128	Crosstube material
-----	----------	--------------------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part number Description Batch

1 D6005-128 Crosstube *26549*

Check OD = 2.750"; ID = 2.000"

JF 07/04/08
MS 07/04/05

3.0	MORI SEIKI	MORI SEIKI CNC LATHE LARGE
-----	------------	----------------------------



Comment: MORI SEIKI CNC LATHE LARGE

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA113

2-Turn first side as per Folio FA113

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-141.

*JF 07/04/08**MS 07/04/05*

4.0	QC1	INSPECT ALL DIM TO DIM SHEET
-----	-----	------------------------------



Comment: INSPECT ALL DIM TO DIM SHEET

*JF 07/04/08**MS 07/04/05*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Part Number: D212664101

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Turn second side as per Folio FA113

2-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-141.

JF 07/04/08

6.0

QC1

INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

JF 07/04/08

7.0

QC8

SECOND CHECK



Comment: SECOND CHECK

JF 07/04/08

8.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Remove sand and plugs

2-Scribe part # and batch # using vibrating stylus as per Dwg D212-664-141

JF 07/04/08

9.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Polish entire outside surface of crosstube

JD 7-4-10

10.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

DP 7-4-10

11.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

JD 7-4-10

W/O:		WORK ORDER CHANGES					
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QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 212/205 HIGH FED X-TUBE ASSEMBLY

Job Number: 31354

Part Number: D212664101

Job Number:



Seq. #:

Machine Or Operation:

Description:

QC15

DIMENSIONAL CHECK OF X-TUBES



Comment: DIMENSIONAL CHECK OF X-TUBES

13.0

BENDING

BENDING MACHINE



Comment: BENDING MACHINE

Bend tube as per Dwg D212-664-141 using CNC bender program 212-fw and Folio FT015

EL 7-5-1

14.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill pilot holes in tube as per Dwg D212-664-141 using drill Jig DT8548 & DT8549

2-Ream hole to finish size in tube as per Dwg D212-664-141 using drill Jig DT8548 & DT8549. Check dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes.

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-141

DP
7-5-29
JD 7-5-30

15.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1 within 24 hours of bending and drilling

JD 7-5-30

16.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

17.0

OUTSIDE SERVICE

OUTSIDE SERVICES



Comment: Sub-Contracting OUTSIDE SERVICES

Liquid Penetrant Inspection as per QSI 038

Issue P/O: 3878

LPI as per ASTM 1417 Level 2

Attach copy of NDT results to work order

0207/05/31 @

18.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Inspect for transit damage Ensure copy of NDT results attached to work order.

07/06/05 @

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Drawing Name: 212/205 HIGH FED X-TUBE ASSEMBLY

Job Number: 31354

Part Number: D212664101

Job Number:



Seq. #:

Machine Or Operation:

Description :

19.0

QC6

DIMENSIONAL CHECK



Comment: Inspect for damage & ensure results are as per Dwg D212-664-141

07-06-12

20.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

1-Prime inside and outside crosstube as per QSI 005 4.2

2-Paint outside crosstube with White Imron as per QSI 005 4.2

RT 07-06-12

RT 07-06-16

21.0

QC14

Inspect Spray Paint



Comment: Inspect Spray Paint

Then, Wrap in plastic bag to protect from scratches

ml 07 07 17

(PTO)

22.0

~~D2856600~~

Abrasion Strip



Comment: Qty.: 0.7090 f(s)/Unit Total: 0.7090 f(s)

Pick:

Qty Part number Description Batch

2 ~~D2856 600 851~~ Abrasion Strip

A/R magna band m 104723

time: 4:00 pm

ml 07 07 17

23.0

D28931

Support



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2893-1 Support

29524

ml 07 07 17

24.0

MS2192024

Clamp(per MIL-DTL-8783C)



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Pick:

Qty Part number Description Batch

4 MS21920-24

Clamp


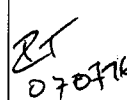
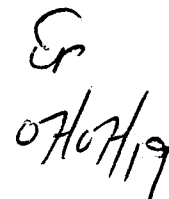

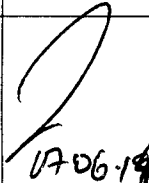
103955

ml 07 07 17

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: 2 Date: 21/07/23

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
07-06-14	20.0	Paint had orange peel on one side. When surface was polished, the Primer became very visible. Root Cause: Paint was too thin in one section, human error.	 QS1012	Scuff tube with Red scotch brife, & clean/Prep. Re-paint per QS1005.	 07/07/16	 07/07/19	 QS1012	 07-06-14

NOTE: Date & initial all entries

Date: Tuesday, 3/20/2007 1:47:38 PM
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Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 212/205 HIGH FED X-TUBE ASSEMBLY

Job Number: 31354

Part Number: D212664101

Job Number:



Seq. #:

Machine Or Operation:

Description:

25.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install abrasion strips as per QSI 035 using DT8584

Per Rev. C 1- **APPLY magnabond to supports A/R m101 07 17**

2-Install supports and clamps as per Dwg D212-664-141. Torque clamps to 80-100 in lb.

26.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

Er 07/07/15 (X)

27.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

28.0

D34281

Placard



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

PLACARD

Batch: *15026299*

29.0

AN635A

BOLT



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Bolt

Batch: *M103446*

30.0

AN636A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Bolt

Batch: *M102929*

31.0

AN960JD616

Washer



Comment: Qty.: 18.0000 Each(s)/Unit Total: 18.0000 Each(s)

Washer

Batch: *M103641*

7/7/2050

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: D Date: 5/16/23
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 212/205 HIGH FED X-TUBE ASSEMBLY

Job Number: 31354

Part Number: D212664101

Job Number:



Seq. #:

Machine Or Operation:

Description :

32.0

MS21042L6

Nut



Comment: Qty.: 6.0000 Each(s)/Unit Total : 6.0000 Each(s)

Nut

Batch:

M101600, Y 2/2/20 50 C207/07

33.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

C207/07/20 (1) C27/2/20

34.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Identify and pack for shipping as per PPP D212-664-101

C 27/2/20

35.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

(1) 27/07/23

Job Completion



u 27.0723

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	31354
Description: Crosstube Assembly (205/212/412 High Fwd)		Part Number:	D212-664-141
Inspection Dwg: D212-664-141 Rev: B		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article
 ☐ Prototype

Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	0.200	+/-0.010	.200	✓		
	R0.063	+/-0.010	.063	✓		
	2.740	+0.005/-0.000	2.744	✓		
	5.097	+/-0.030	5.097	✓		
	2.304	+0.005/-0.000	2.304	✓		
	2.340	+0.005/-0.000	2.340	✓		
	2.398	+0.005/-0.000	2.398	✓		
	2.448	+0.005/-0.000	2.448	✓		
	2.498	+0.005/-0.000	2.498	✓		
	2.549	+0.005/-0.000	2.549	✓		
	2.599	+0.005/-0.000	2.599	✓		
	2.671	+0.005/-0.000	2.671	✓		
	2.701	+0.005/-0.000	2.701	✓		
SIDE B	0.200	+/-0.010	.200	✓		
	R0.063	+/-0.010	.063	✓		
	2.740	+0.005/-0.000	2.740	✓		
	5.097	+/-0.030	5.097	✓		
	2.304	+0.005/-0.000	2.304	✓		
	2.340	+0.005/-0.000	2.340	✓		
	2.398	+0.005/-0.000	2.398	✓		
	2.448	+0.005/-0.000	2.448	✓		
	2.498	+0.005/-0.000	2.498	✓		
	2.549	+0.005/-0.000	2.549	✓		
	2.599	+0.005/-0.000	2.599	✓		
	2.671	+0.005/-0.000	2.671	✓		
	2.701	+0.005/-0.000	2.701	✓		
	126.51	+/-0.020	126.51	✓		

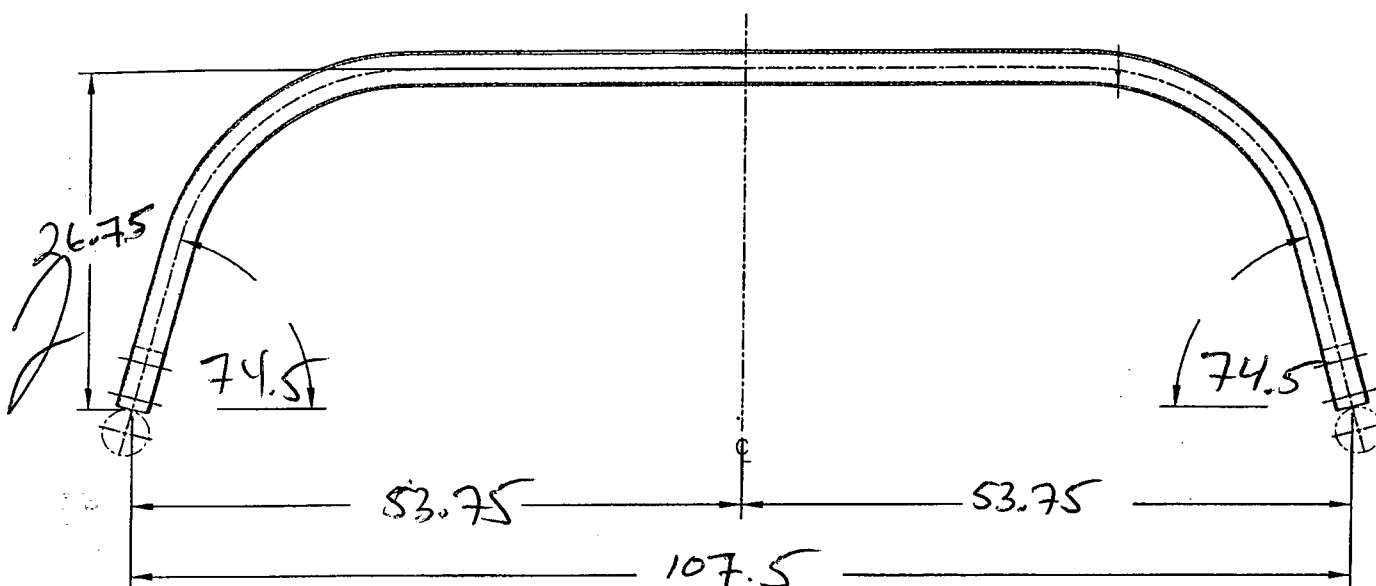
Measured by:	MS/JSB	Audited by:	En	Prototype Approval:	N/A
Date:	02/04/05	Date:	07/04/09	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	05.04.27	New Issue (P/O D412-664-101)	KJ/JLM	
B	06.03.15	Tolerance revised for 5.097 per Dwg Rev update	KJ/JLM	

DART AEROSPACE LTD		Work Order:	31354
Description: Crosstube High Fwd (205/212/412)		Part Number:	D212-664-101
Inspection Dwg: D212-664-141 Rev: B		Page 1 of 1	

Required Dimension	Min	Max
Height	26.86	26.98
1/2 Span	53.66	53.78
Angle	49	52
Total Span	107.32	107.56

26.92



Comments
height is slightly uneven, but still very good. only .100" max <i>as 1042</i>
<i>higher</i>

QC15 Inspection	<i>as 1042</i>
Date	<i>070503</i>

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM <i>[Signature]</i>	<i>[Signature]</i>



DESIGN PH	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D212-664-141	REV. B SHEET 1 OF 3
DATE 05.02.04		TITLE XTUBE ASS'Y (205/212/412 HI FWD) NTS	
A	00.12.12	NEW ISSUE	
B	05.02.04	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	

RELEASED
05.06.09 *[Signature]*

UNDER REVIEW

~~07.03.03 PH~~

REVISE TO ADD
MANUFACTURE AND LUBRICATION

Qty	Part Number	Description
X	D212-664-141	CROSSTUBE ASSEMBLY (205/212/412 HIGH FWD)
1	D6005-128	CROSSTUBE
2	D2893-1	SUPPORT
2	D2856-600-851	ABRASION STRIP
4	MS21920-24	CLAMP

GENERAL NOTES:

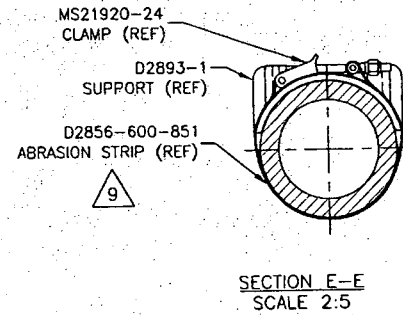
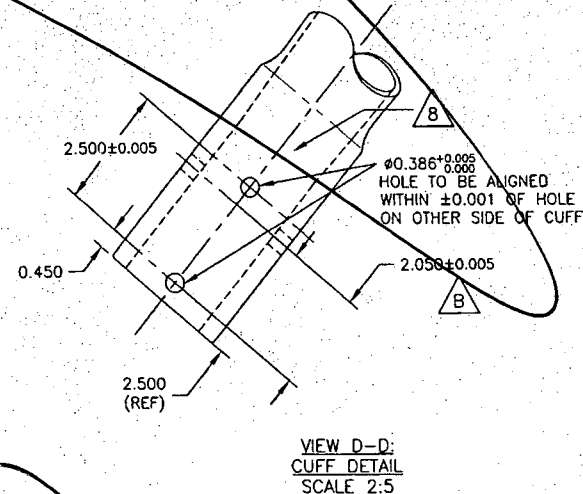
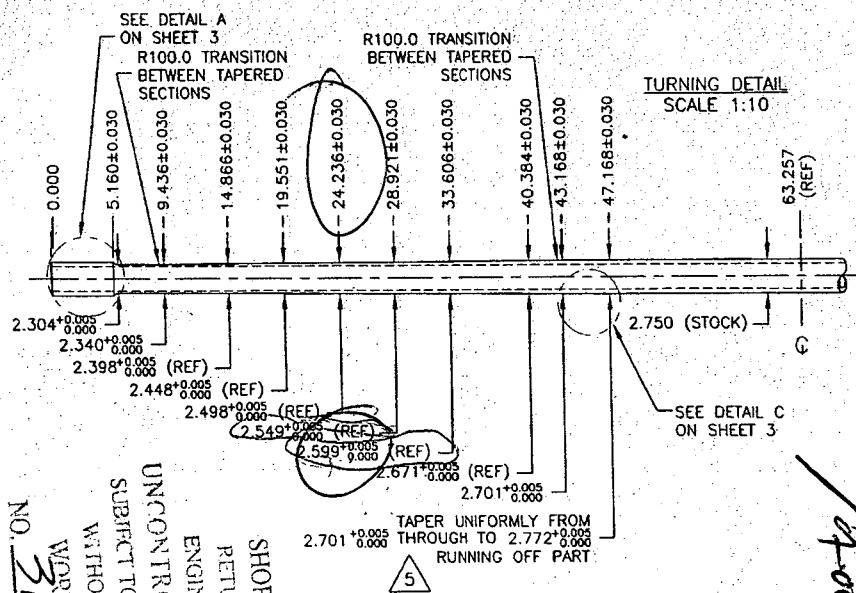
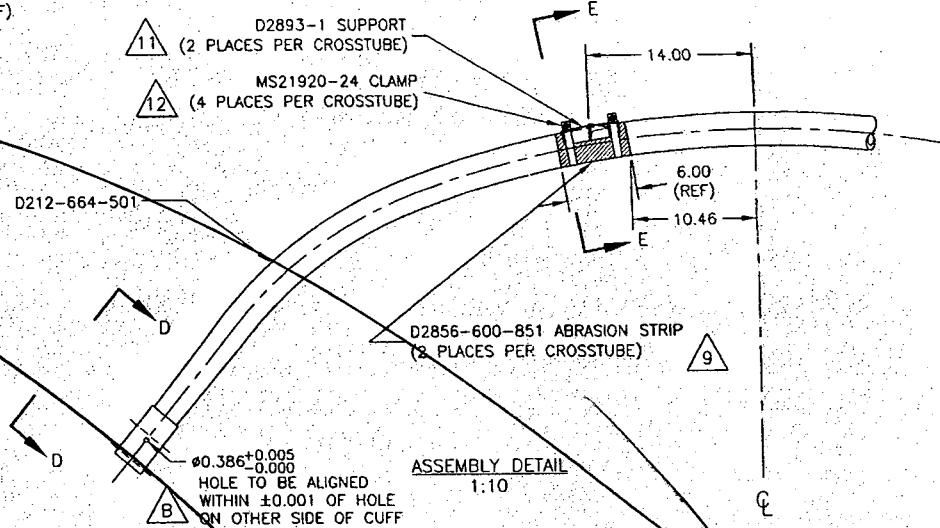
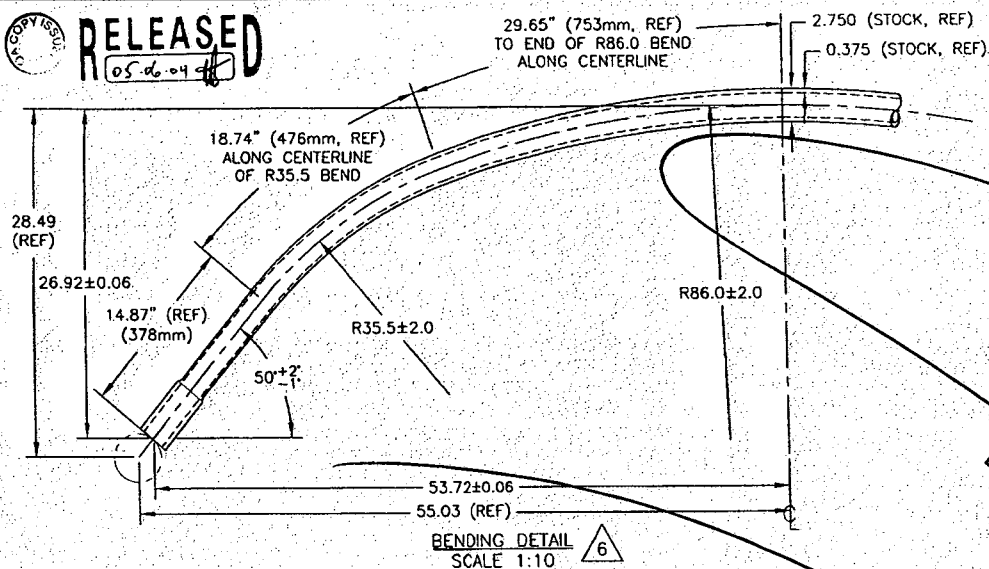
- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 2) MATERIAL: MANUFACTURED FROM D6005-128
FINISHED LENGTH = 126.51±0.020
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 4) PART IS SYMMETRIC ABOUT CENTERLINE.
- 5) RUN-OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 6) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 7) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 8) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS
- 9) INSTALL D2856-600-851 ABRASION STRIP WITH A 0.13 (REF) GAP ON BOTTOM SIDE OF CROSSTUBE, CENTERED OPPOSITE D2893-1 SUPPORT, PER QSI 035.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) IT IS OPTIONAL TO SEAL EDGES OF SUPPORTS USING SIKAFLEX-241/291 SEALANT.
- 12) TORQUE CLAMPS 80 TO 100 IN-LB.

SHOP COPY
RETURN TO
ENGINEERING
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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. **31354**

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COPY ISSUE
RELEASED
05.06.04



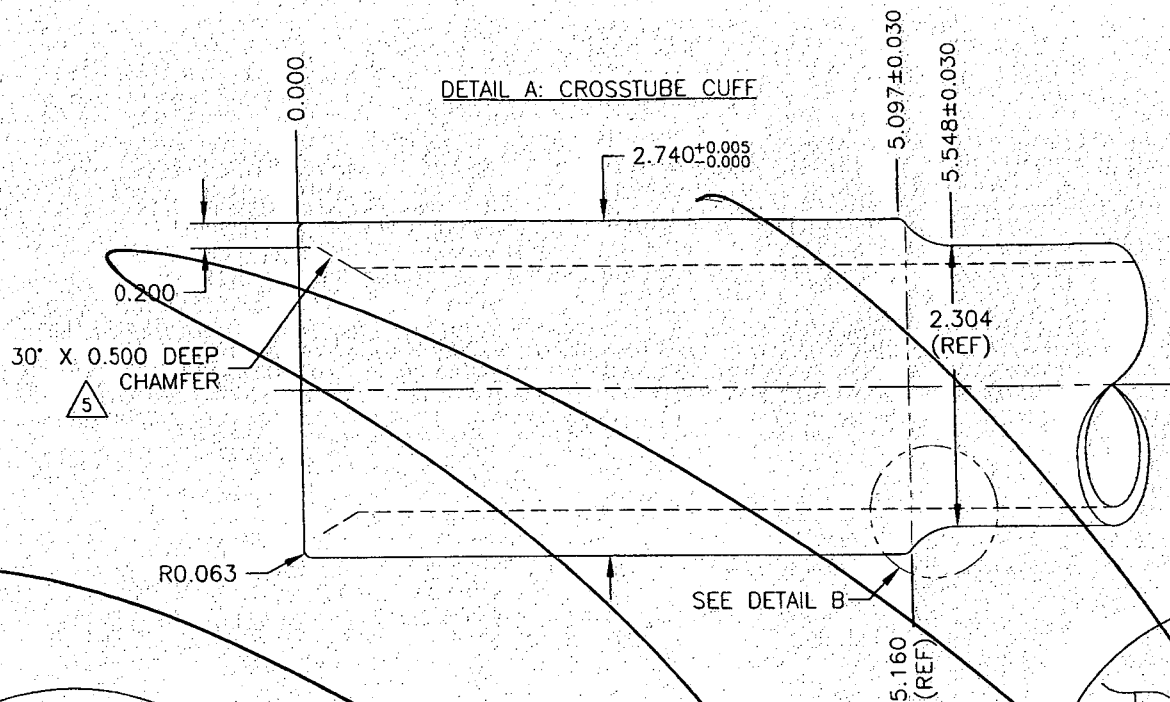
PH 07.03.20
UNDER REVIEW
REVISED TO ADD
abrasion and cushion

NO. 31354
WORK ORDER
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UNCONTROLLED COPY
ENGINEERING
RETURN TO
SHOP COPY

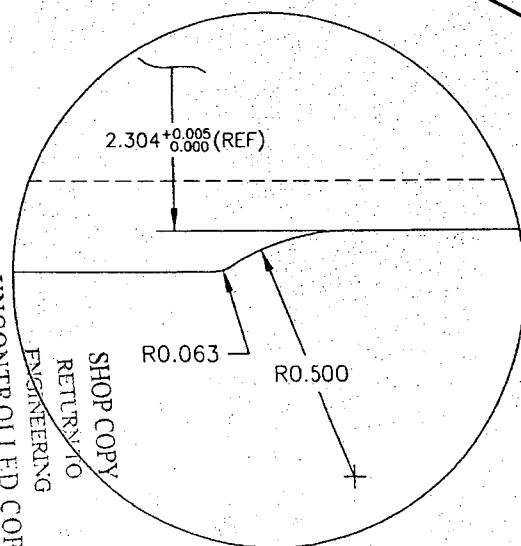
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		CHECKED	APPROVED	D212-664-141	SHEET 2 OF 3
		DATE		TITLE	SCALE
		05.02.04		XTUBE ASS'Y (205/212/412 HI FWD)	1:10



RELEASED
105 46 09 04

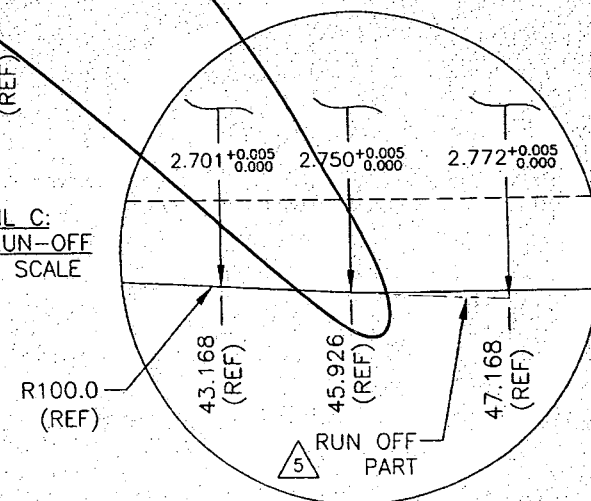


PH 07.05.20
UNDER REVIEW
07.05.02 PH
Review to add
margin and cushion



DETAIL B: CUFF
TRANSITION
SCALE 4:1

DETAIL C:
TAPER RUN-OFF
NOT TO SCALE



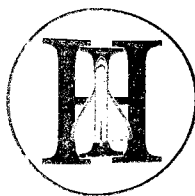
NO. 31354
WORK ORDER
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12-06-19

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DART AEROSPACE LTD.

DESIGN	PH	DRAWN BY	PH	DART	DART AEROSPACE LTD. HAWKESBURY, ONTARIO, CANADA
CHECKED	#	APPROVED	#	DRAWING NO.	REV. B
DATE	05.02.04	TITLE	XTUBE ASS'Y (205/212/412 HI FWD)	D212-664-141	SHEET 3 OF 3
		SCALE	1:1		



HeathAir

INTERNATIONAL (1991) INC.

681 Ave. Lepine, Dorval, Québec H9P 1G3
Tél.: (514) 636-1000 • Fax: (514) 636-0031

W.O. N° 36547

A.M.O. Number: 46/90

NON-DESTRUCTIVE TESTING REPORT

AIRCRAFT / COMPONENT INFORMATION

REGISTRATION:

MODEL/TYPE:

SERIAL NUMBER:

TOTAL HR/LDG:

OPERATED BY:

BASED AT:

INSPECTION REQUIREMENTS

Carry out FPI of (6) cross tubes (external surface) as per ASTM E-1417-05 and the Dart QSI 038, Section 4.1.1 (on file at client) - parts delivered to HeathAir.

Qty (5) P/N D212-664-101 S/N's B31354, B31355, B31353, B31357 and B31352.

Qty (1) P/N D212-664-201 S/N B31361.

☐ RADIOGRAPHY

☐ ULTRASONIC

☒ PENETRANT

☐ MAGNETIC PARTICLE

☐ EDDY CURRENT

INSPECTION REPORT

Fluorescent penetrant inspection was performed in accordance with the above requirements on (6) cross tubes.

Note: A Level 3 penetrant was substituted for the requested Level 2 (3 is more sensitive) Ardrex 970P25E Batch #04B503.

(6) cross tubes inspected. (6) PASSED / (0) FAILED.

THE MAINTENANCE DESCRIBED ABOVE HAS BEEN PERFORMED IN ACCORDANCE WITH
THE APPLICABLE STANDARDS OF AIRWORTHINESS

INSPECTED BY: 

DATE June 1, 2007

INSPECTION
STAMP(S) 

CUSTOMER INFORMATION

CUSTOMER: Dart Aerospace

P.O. NUMBER

PO 00003878

ADDRESS:

CONTACT NAME: Linda Lacelle

LA30UR

@

\$

MATERIALS

@

TRAVEL EXPENSES

@

GST

HOTEL EXPENSES

@

PST

INVOICE NO.

TOTAL \$

WHITE COPY - INSPECTION FILE • YELLOW COPY - CUSTOMER • PINK COPY - ACCOUNTANT

DART

DESIGN PH	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED GP	APPROVED [Signature]	DRAWING NO. D212-664-141	REV. C SHEET 1 OF 3
DATE 07.03.08		TITLE XTUBE ASS'Y (205/212/412 HI FWD) NTS	
A	00.12.12	NEW ISSUE	
B	05.02.04	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	
C	07.03.08	REMOVE -851 ABRASION STRIP; ADD MAGNOBOND 6398, CUSHION, REVERSE CLAMPS	

RELEASED~~CONFIDENTIAL~~

Qty	Part Number	Description
X	D212-664-141	CROSSTUBE ASSEMBLY (205/212/412 HIGH FWD)
1	D6005-128	CROSSTUBE
2	D2893-1	SUPPORT
4	D3595-063-450	RUBBER CUSHION
4	MS21920-25	CLAMP (OR MS21920-26)
A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

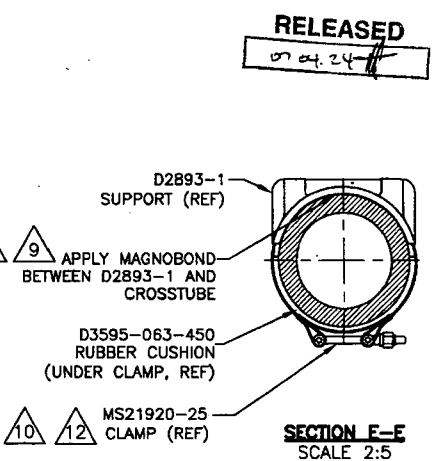
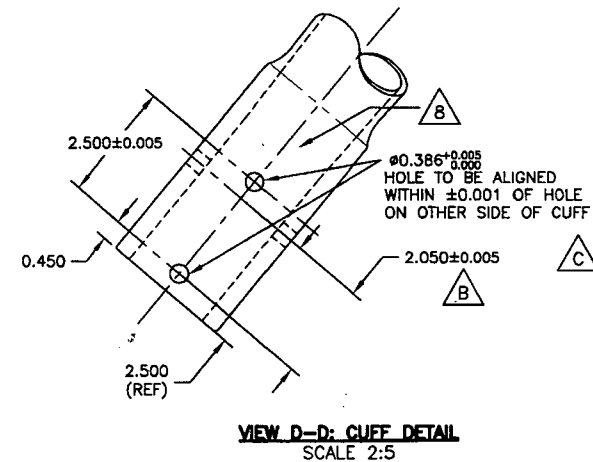
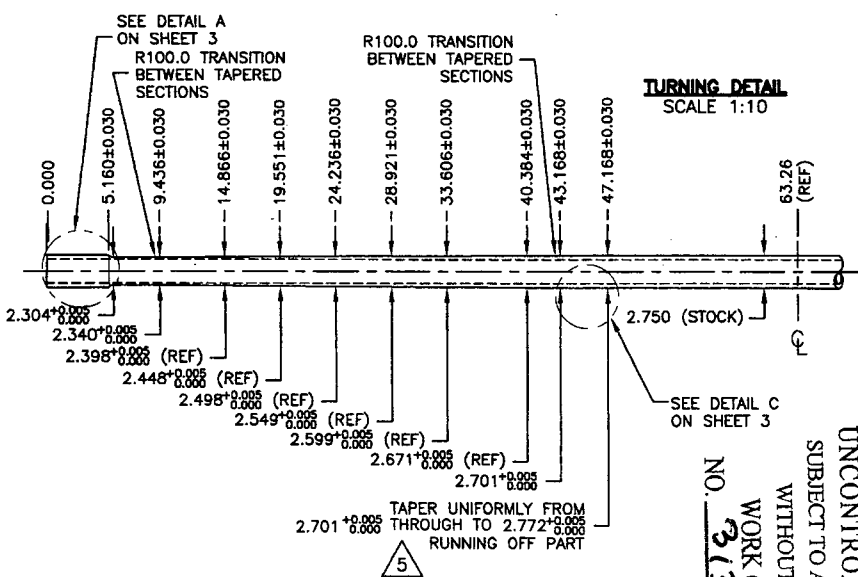
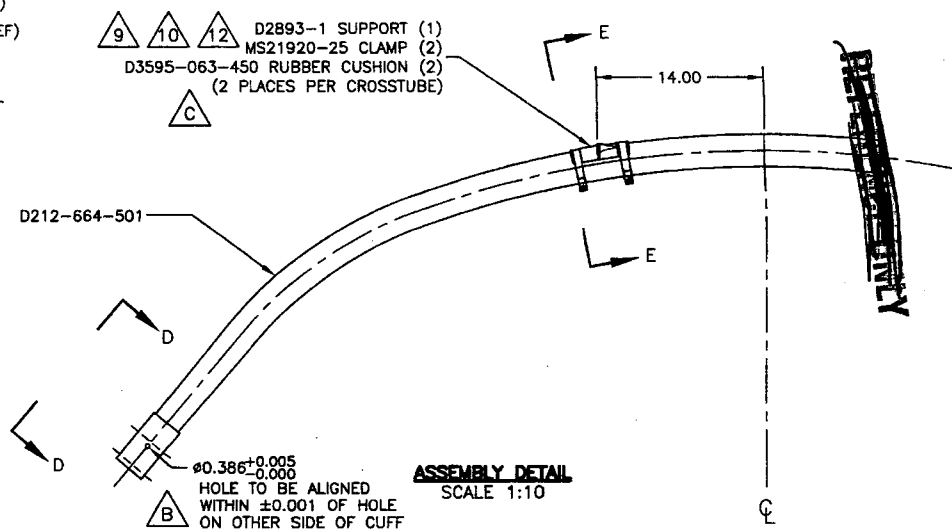
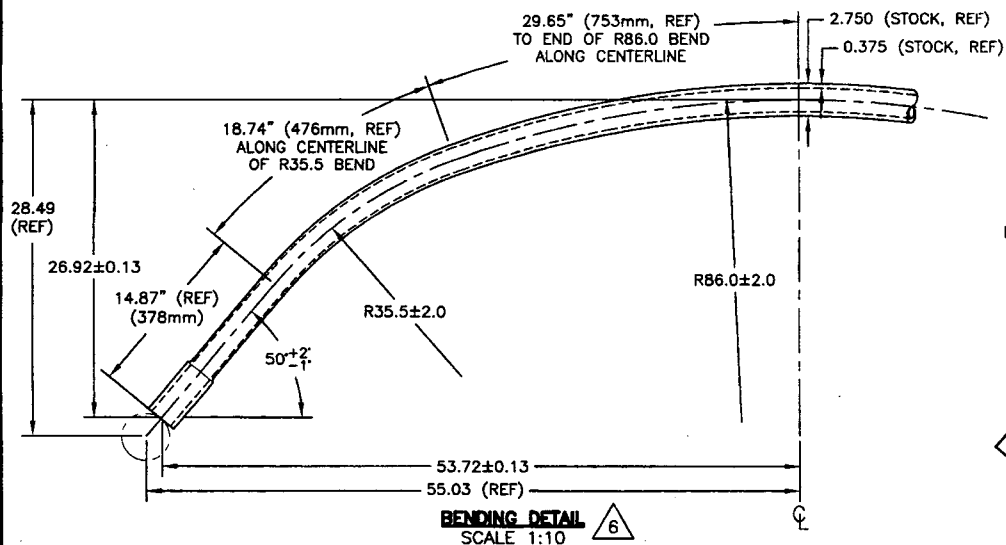
GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 2) MATERIAL: MANUFACTURED FROM D6005-128
FINISHED LENGTH = 126.51 ± 0.020
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 4) PART IS SYMMETRIC ABOUT CENTERLINE.
- 5) RUN-OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 6) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 7) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 8) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS.
- 9) INSTALL D2893-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 10) INSTALL MS21920-25 CLAMPS (OR -26) WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE D2893-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT
- 11) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 12) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

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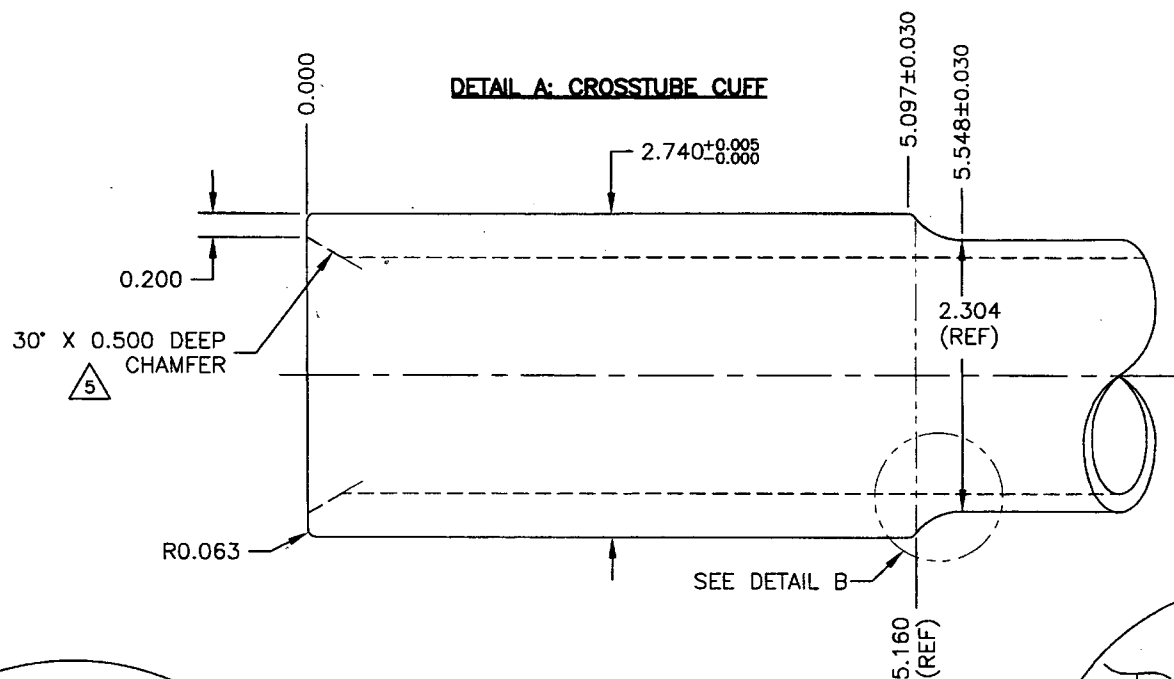
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		DATE	07.03.08	TITLE		XTUBE ASS'Y (205/212/412 HI FWD)	SCALE 1:10

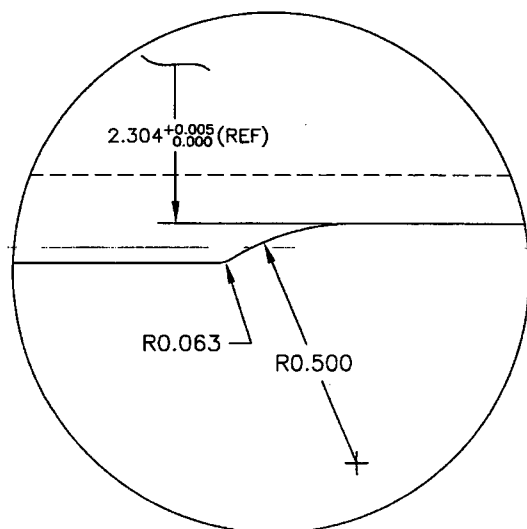
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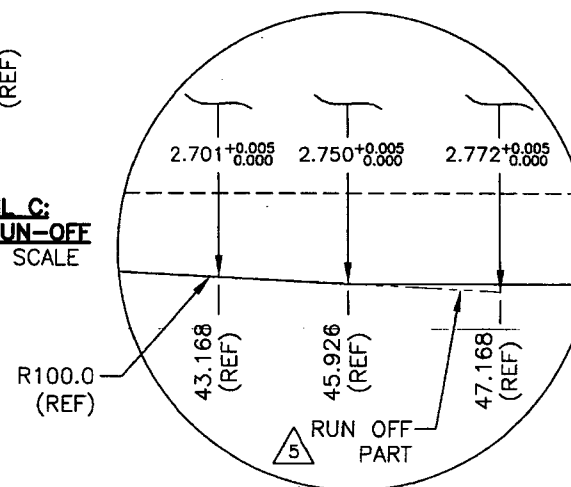
DETAIL A: CROSSTUBE CUFF



**DETAIL B: CUFF
TRANSITION**
SCALE 4:1



**DETAIL C:
TAPER RUN-OFF**
NOT TO SCALE



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		DATE	07.03.08	TITLE		XTUBE ASS'Y (205/212/412 HI FWD) 1:1	
				REV. C		SHEET 3 OF 3	
						SCALE	